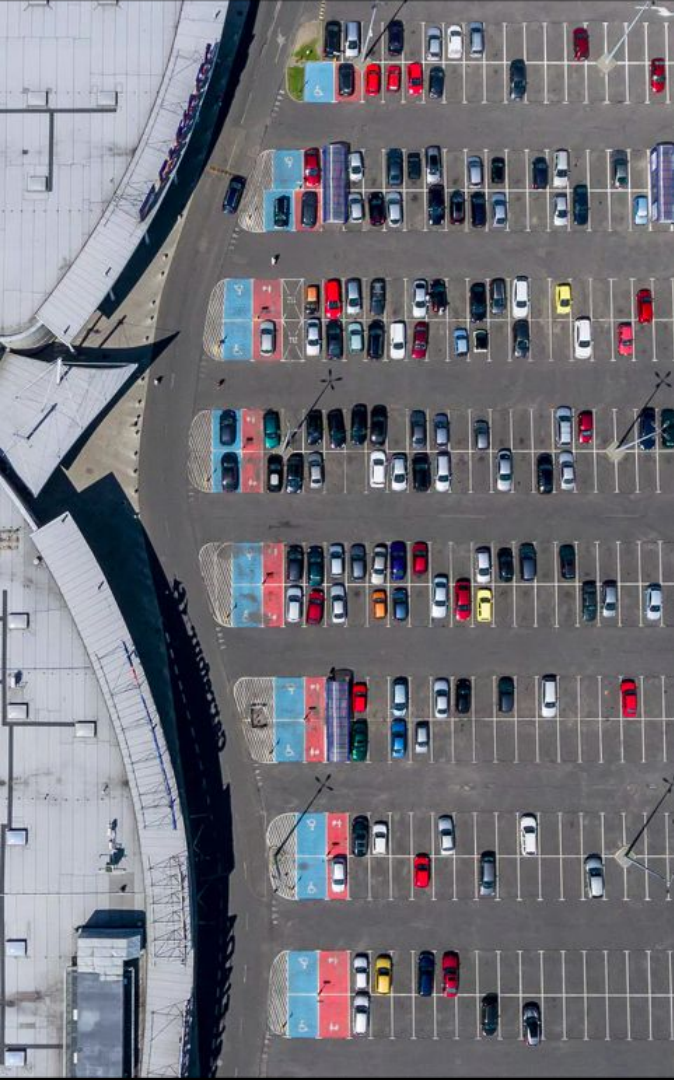UBER

The Future of Ridesharing In an Automated World

December 4, 2017

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Head of Policy, Autonomous Vehicles & Elevate
Uber Technologies, Inc.

There are more than 1.2 billion cars in the world

Yet cars sit idle 95% of the time
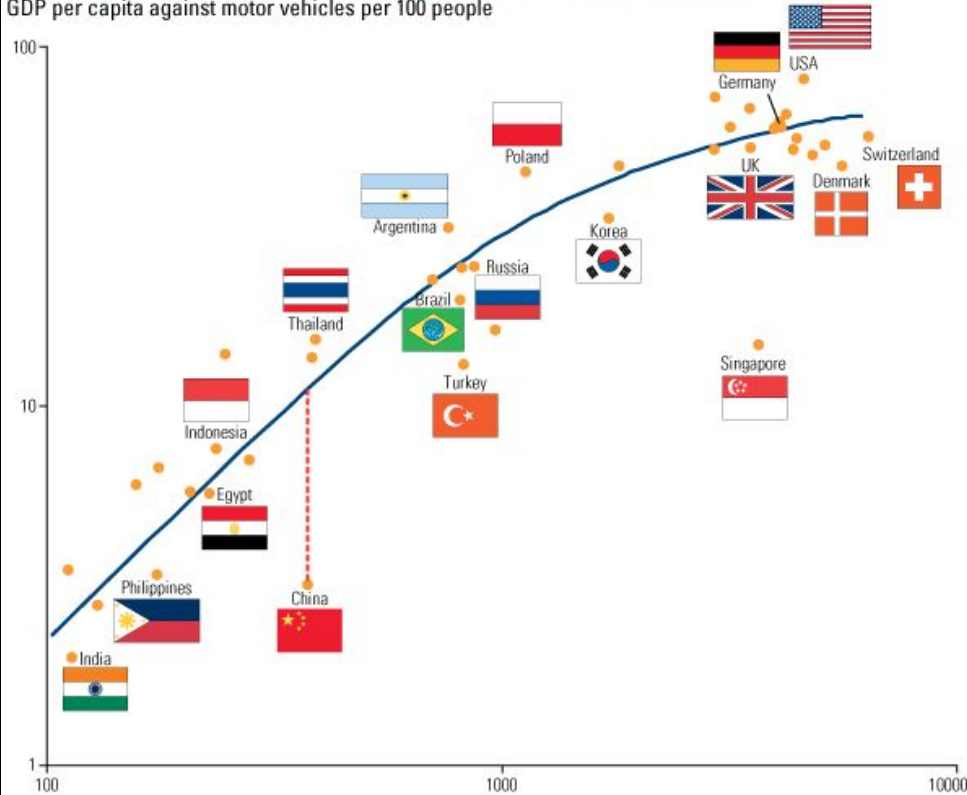
And when the cars move, a majority of seats are empty

All of this isn't great for road congestion, our wallets, or the environment

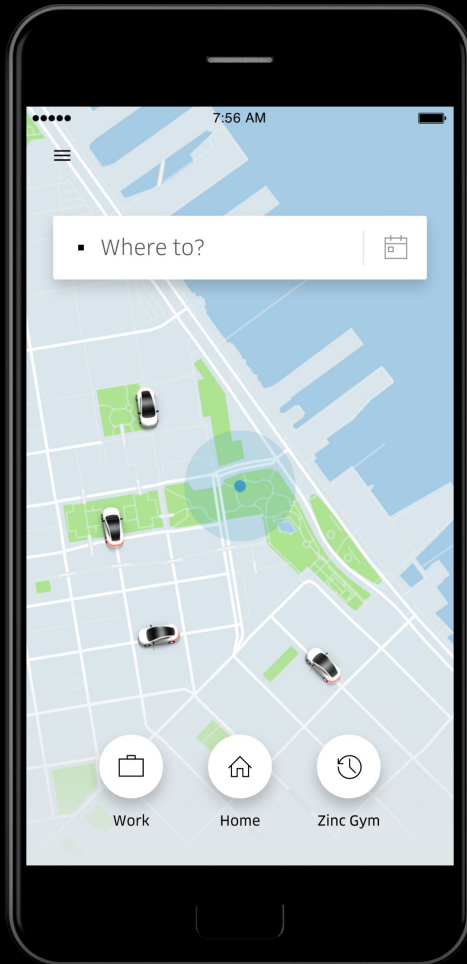**Catch Up Potential in Vehicle Penetration for Several Emerging Market Countries**
GDP per capita against motor vehicles per 100 people

Cars per 100 ppl (vertical axis)

GDP per capita (horizontal axis)

Countries shown: USA, Germany, Poland, Switzerland, UK, Denmark, Argentina, Korea, Russia, Thailand, Brazil, Turkey, Singapore, Indonesia, Egypt, Philippines, China, India

Source: World Bank

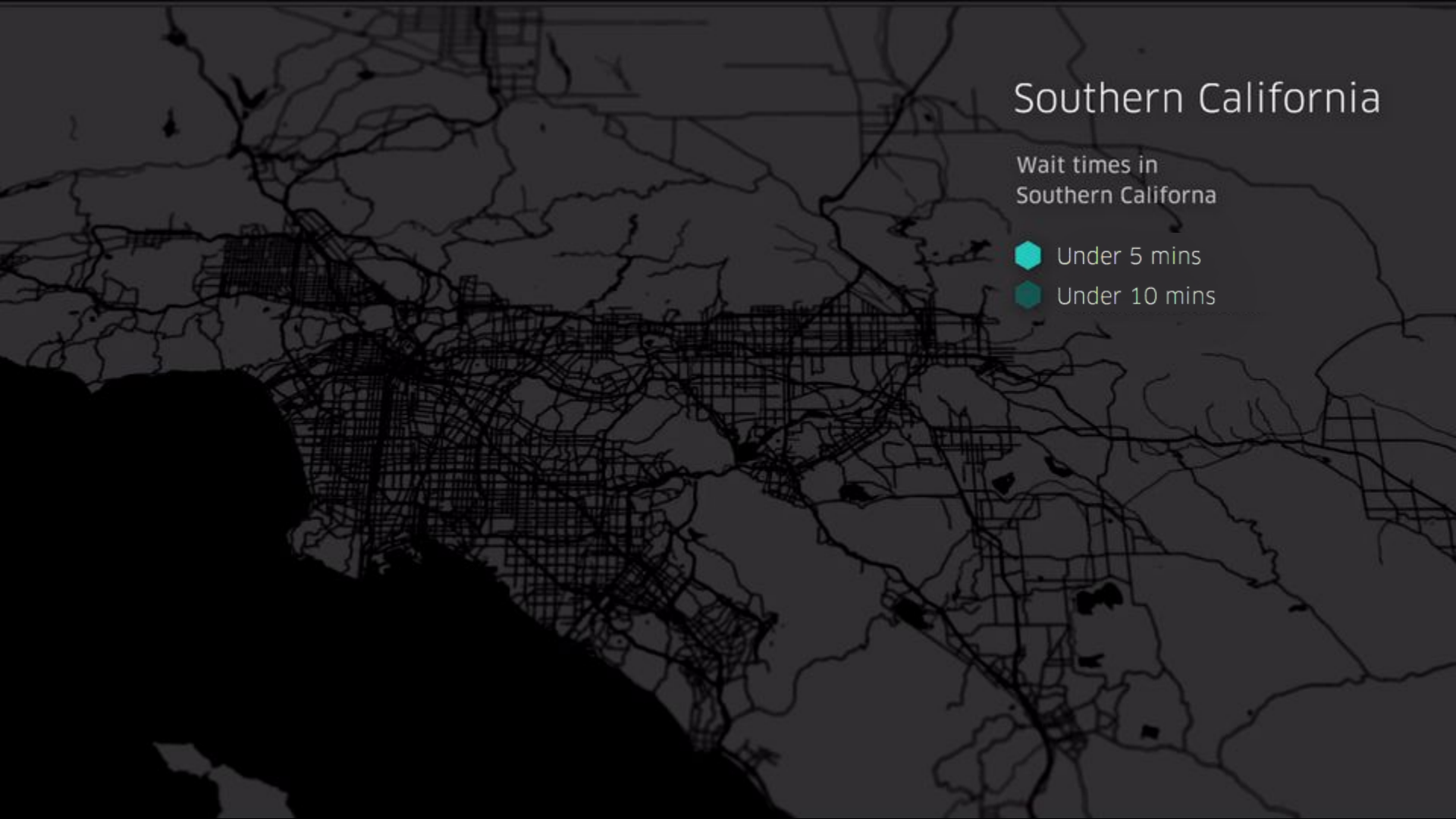And this dynamic is only getting worse

But it doesn't need to be this way

Uber provides an easy alternative to owning a car

Southern California

Wait times in
Southern Californa

⬡ Under 5 mins
⬡ Under 10 mins

uberPOOL

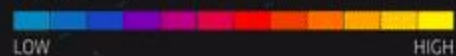And now we're working to encourage people to share their rides and use empty seats

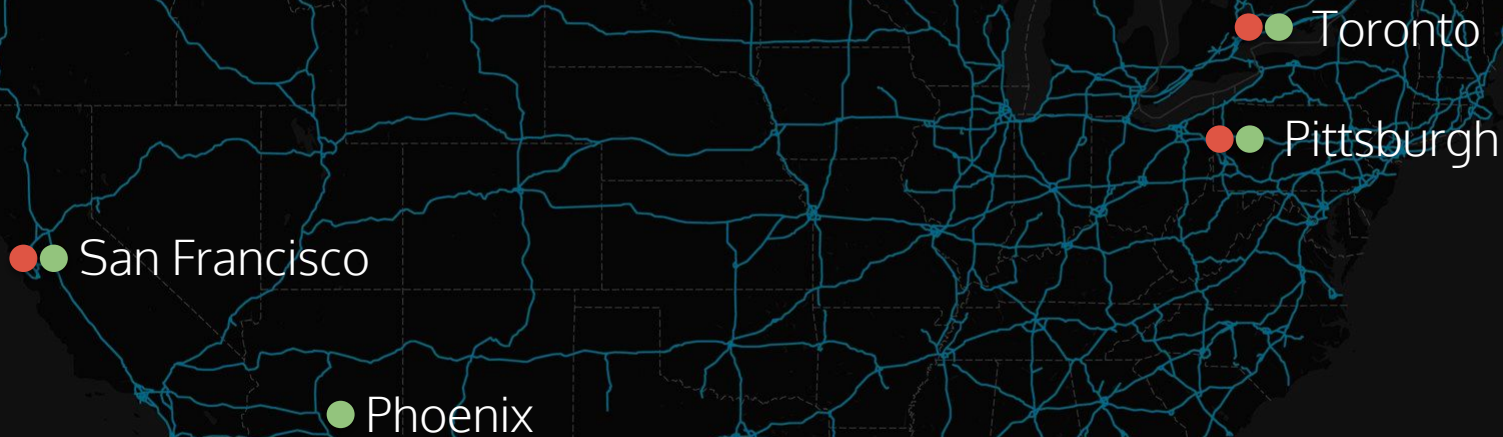Total Uber trips

uberPOOL trips

TRAFFIC VOLUME

LOW   HIGH

But what do these efforts mean when autonomous vehicles are introduced?

Uber's
Advanced
Technology
Group

Development and Testing Locations

Toronto

Pittsburgh

San Francisco

Phoenix

● SDVs on the road

● Development hubs

Self-Driving Vehicle Development

Safety
Ensure that, at every stage of development, our self-driving vehicles operate safely when driving on public roads

Software
Build a scalable AV system through unique functional groups (e.g., perception, prediction, localization, motion planning, etc.) and core competencies (e.g., deep learning, AI, ML, simulation, etc.)

Mapping
Collect and build scalable AV high definition and lane graph mapping layers

Hardware
Work with OEMs and automotive suppliers to modify and integrate hardware into self-driving vehicles.
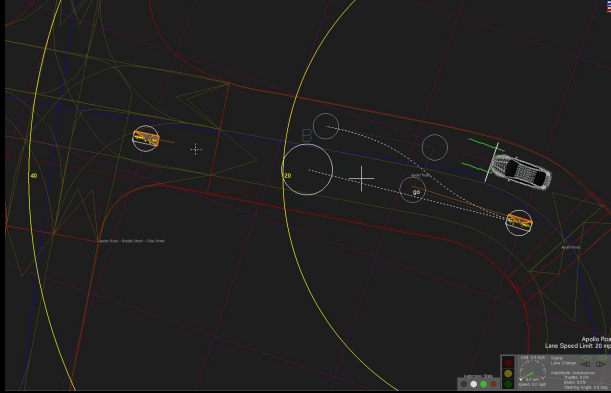
Vehicle Programs
Partner with the world's leading OEMs and suppliers to bring self-driving vehicles onto Uber network

Operations
Maximize self-driving vehicle utilization and learnings through real-world testing and passenger operations

Self-Driving Vehicle Testing

Offline Testing

Closed Course Testing

On-Road Evaluations

We evaluate and improve the performance of our self-driving system via system simulation, post hoc analysis of recorded data, carefully crafted track test cases, and using metrics gathered during on-road supervised driving.

The ability of our Vehicle Operators to maintain control of the SDV during testing is highly assured through system design and extensive training.

Self-Driving Cars

Self-Driving Trucks

Benefits of Self-Driving Fleets

SHARED

AUTOMATED

ELECTRIC

Benefits of Self-Driving Fleets

Safety

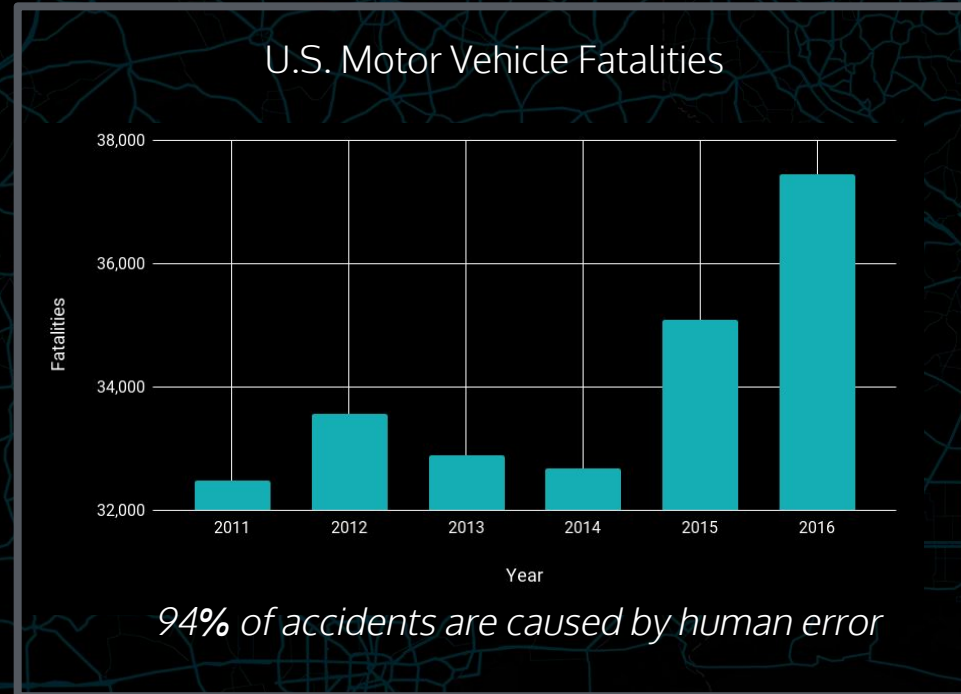Efficiency

Congestion

Environment

Urban development

Increased transportation access

U.S. Motor Vehicle Fatalities
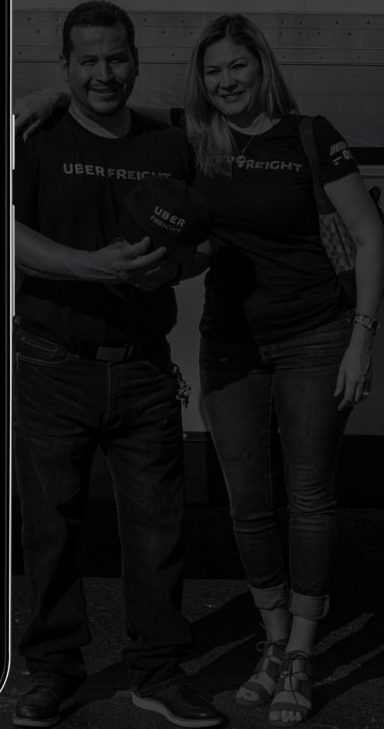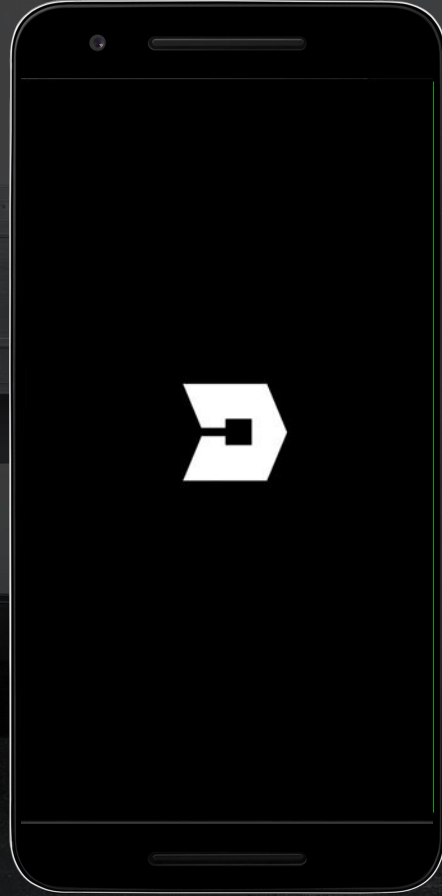

94% of accidents are caused by human error

Policies that can help improve AV utilization

- Road / congestion pricing

- Urban HOV lanes

- Smart pricing for off-street and curbside parking

- Parking maximums instead of parking minimums

- In-lieu parking fees and parking cash outs

Uber Freight

Uber AIR

Thank You!

UBER